25U10/H04LP1
INTRODUCTION TO IMPROVED HIGH FREQUENCY RADIOS (IHFR)

RADIO SET AN/PRC-104A CHARACTERISTICS/COMPONENTS

RADIO SET AN/PRC-104A (1)

- **Characteristics:**

  - **Single Sideband (SSB), Amplitude Modulation (AM) Radio.**

  - **Operates on Upper Sideband (USB) Or Lower Sideband (LSB).**

  - **High Frequency (HF) Range 2.0 To 29.9999 Mhz.**

  - **Power Output 20 Watts.**

RADIO SET AN/PRC-104A (2)

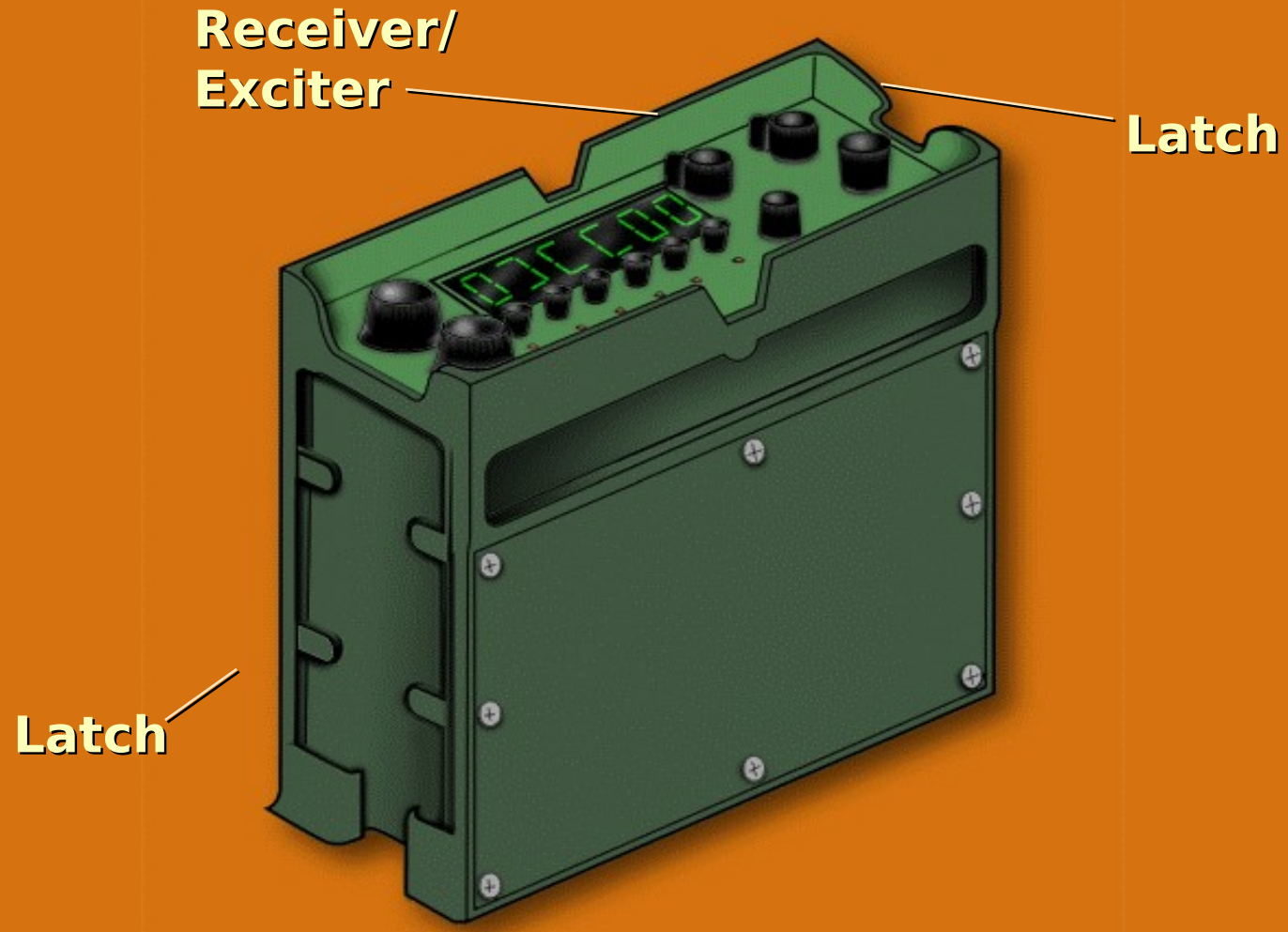
- Power Supply:

  BA-5590 (24 to 32 Volts DC)

- Planning Range:

  Whip (Omnidirectional) - 10 Miles
  Dipole (Directional) - 300 Miles

RECEIVER/EXCITER (RT-1209) (1)



RECEIVER/EXCITER (RT-1209) (2)

- Four Modes of Operation.
  - V-RCV. (Voice and IMC)
  - V-TR. (Voice and IMC)
  - D-RCV. (Data)
  - D-TR. (Data)

RECEIVER/EXCITER (RT-1209) (3)

- Frequency Display MHz/kHz.
- Volume OFF/MAX Control.
- Light Button.
- Audio Connector (Upper and Lower).
- SB Switch.
  - USB.
  - LSB.

AMPLIFIER COUPLER (RF) AM-6874 (1)

AMPLIFIER COUPLER (RF) AM-6874 (2)

- Boosts RT Power (3/10th Watt) to 20 Watts.
- Has Built in Tuner, Which Will Tune the Radio In Approximately 3 Seconds.

AMPLIFIER COUPLER (RF) AM-6874 (3)

- Antenna Selector Switch

  - Whip (Omnidirectional) Upper Left.

  - Dipole (Directional) Center.

  - 50 Ohm (Lower Right); This Will Bypass The Tuner Should It Become Defective. Radio Will Still Operate As a Transceiver.

RADIO SET AN/GRC-213 (1)

RADIO SET AN/GRC-213 (2)

- Characteristics/Components

  - Single Sideband (SSB), Amplitude Modulation (AM) Radio.

  - Operates on Upper Sideband (USB) Or Lower Sideband (LSB).

  - High Frequency (HF) Range 2.0 To 29.9999 Mhz. Tunes 280,000 Different Frequencies Within This Range.

RADIO SET AN/GRC-213 (3)

- Power Output 20 Watts.
- Power Supply
  - BA-5590 (24 to 32 VDC)
- Planning Range
  - Whip (Omnidirectional) - 10 Miles.
  - Dipole (Directional) - 300 Miles.

RADIO SET AN/GRC-213 (4)

- **Additional Information:**
  - **HF Low Power Transceiver.**
  - **Designed for Use on Wheeled or Tracked Vehicles.**
  - **Internal Antenna Tuner Automatically Tunes Radio to Match Antenna Within Operating Frequency Range.**

RADIO SET AN/GRC-213 (5)

- **Components:**

  - **Same As the AN/PRC-104A Except For The Addition of the Amplifier Power Supply (AM-7152) and Antenna Switching Unit (SA-2**

POWER AMPLIFIER (AM-7152) (1)

POWER AMPLIFIER (AM-7152) (2)

- Provides Interface and Isolation Between AN/PRC-104A and Speaker LS-454.
- Receives Power Input Via CX-4720.
- Provides Auxiliary Power for Another Radio Set.

POWER AMPLIFIER (AM-7152) (3)

- Conditions and Filters the Power to Protect AN/GRC-213 From:

  - Over-Voltage
  - Noise Spike Transients
  - Radio Frequency Interference (RFI)
  - Reverse Polarity

POWER AMPLIFIER (AM-7152) (4)

- Interfaces With AN/VIC-1 to Provide Remote Handset Operation.

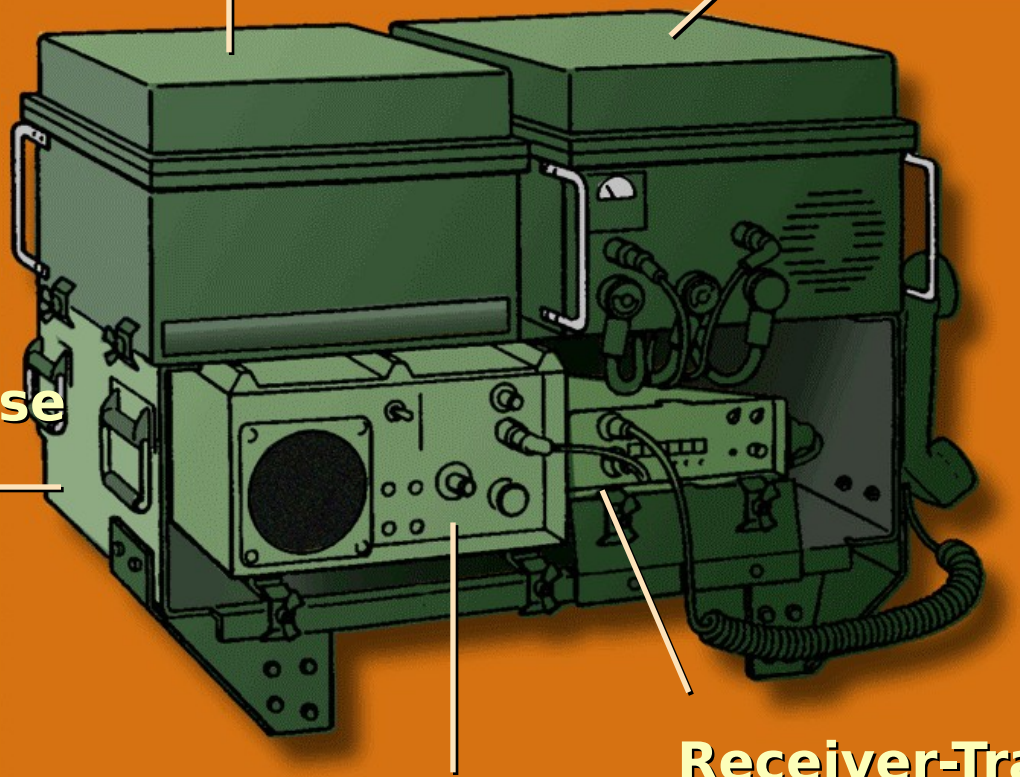
- Interfaces With AN/VIC-1 and VHF FM Radio Sets to Provide Retransmission Capabilitie Connects to J102.

ANTENNA SWITCHING UNIT (SA-2365) (1)

ANTENNA SWITCHING UNIT (SA-2365) (2)

- Component of Installation Kit and Mounting Bas
- Allows for Selection of Antenna:
  - Omnidirectional Whip
    2 - 10
    10 - 30
  - Directional
    AN/GRA-50 (Doublet)
    NVIS
    Long Wire

RADIO SET AN/GRC-193 (1)



RADIO SET AN/GRC-193 (2)

- Characteristics/Components

  - Single Sideband (SSB), Amplitude Modulation (AM) Radio.

  - Operates on Uper Sideband (USB) or Lower Sideband (LSB).

  - High Frequency (HF) Range 2.0 to 29.9999 MHz.

RADIO SET AN/GRC-193 (3)

- **Power Output 100 or 400 Watts.**

NOTE: For Classroom Purpose, Use 100 Watt Position.

- **Power Requirement to Operate**

20 to 32 VDC.

RADIO SET AN/GRC-193 (4)

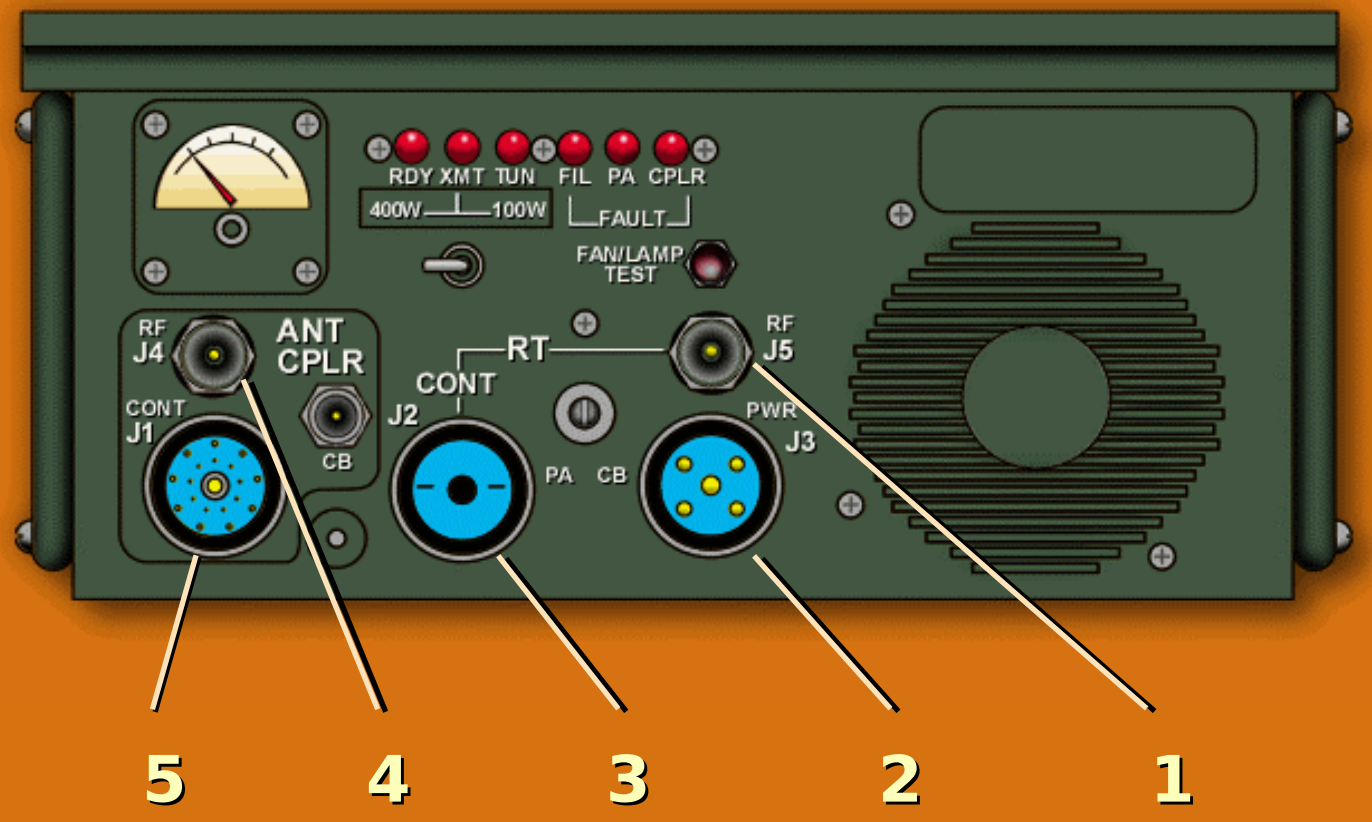
- **Planning Range.**

  - **Whip Antenna - 10 Miles.**
  - **Dipole Antenna - 300 Miles.**

NOTE: The AN/GRC-193 Antenna Can Be Remoted Up to 200 Feet Using an Antenna Siting Kit.

- **Secure Operations Use a KY-65 or KY-99.**

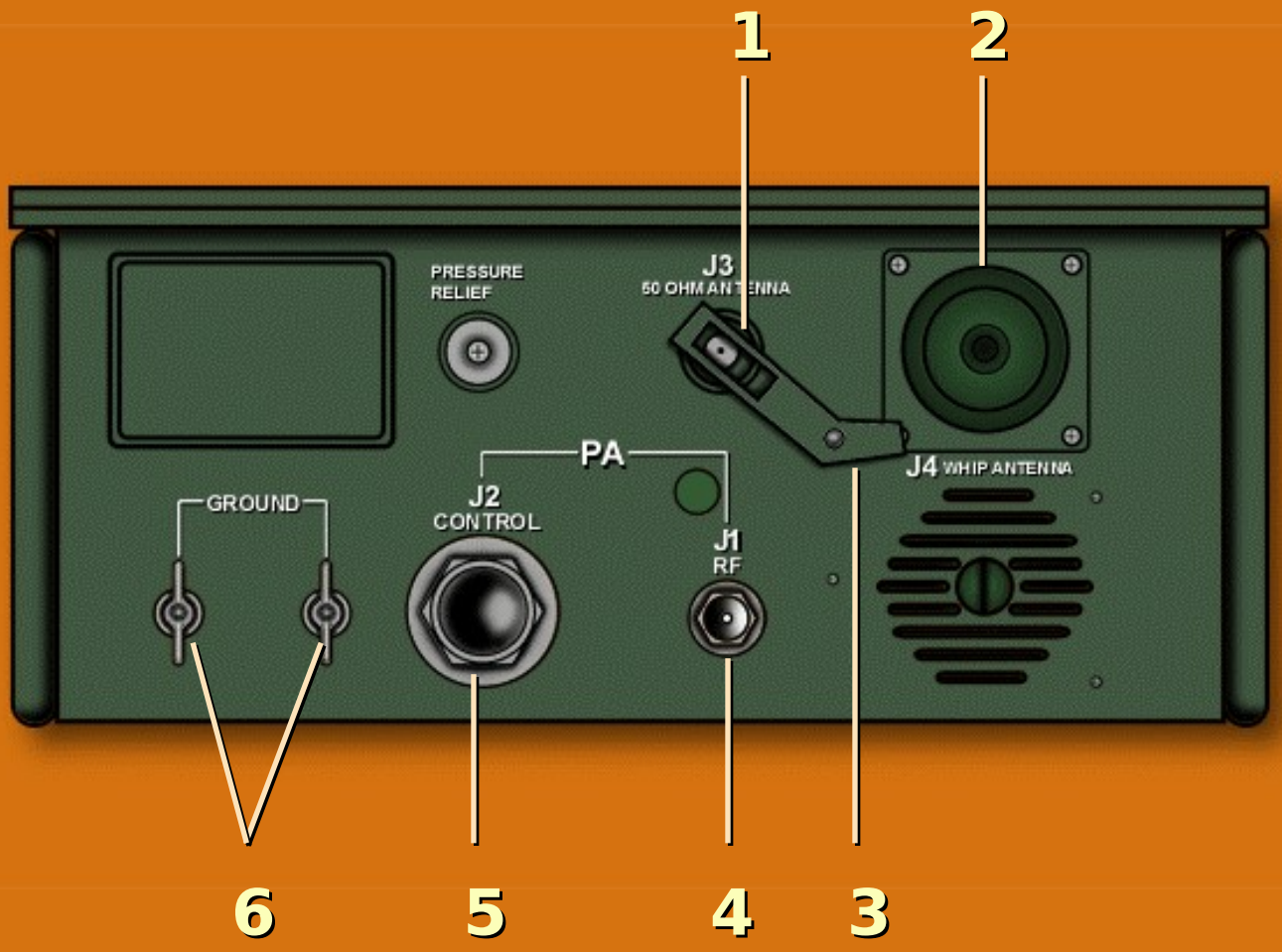
POWER AMPLIFIER (AM-6545A) (1)



POWER AMPLIFIER (AM-6545A) (2)

- Automatically Tuned 100 or 400 Watts.
- High Frequency
  Range 2000.0 To 29999.9 kHz.
- Primary Power at 26.5 VDC Is Supplied
  From Vehicular Electrical System or Other Source and Is Distributed From
  The PA to the RT, Amplifier/Converter, And Coupler.

ANTENNA COUPLER (CU-2064) (1)



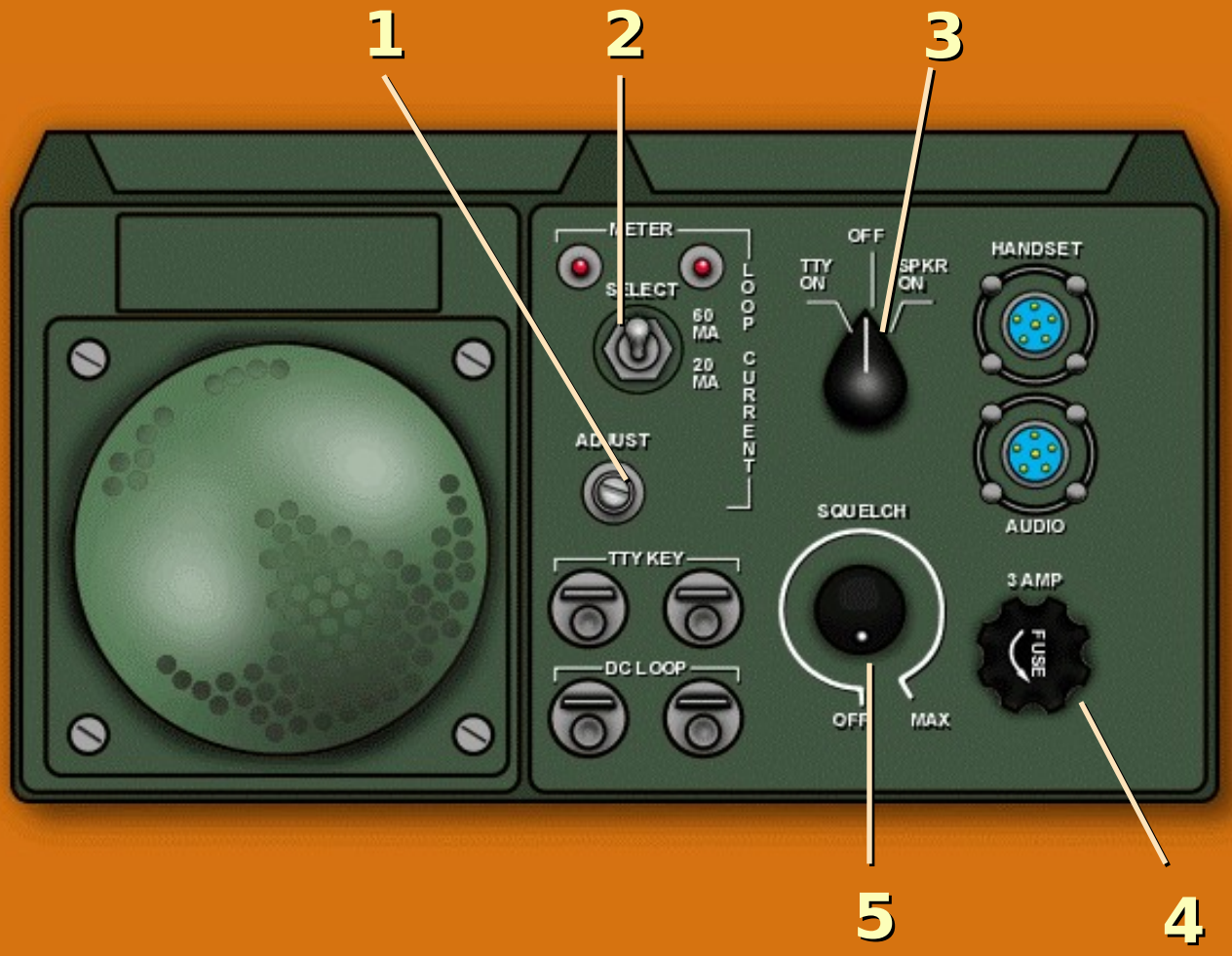
ANTENNA COUPLER (CU-2064) (2)

- Automatically Matches the Impedance Of An HF Antenna to a 50 Ohm Coaxial Transmissio Line to Maintain a VSWR of 1.2:1 Or Less Over HF Frequency Range of 2000.0 To 29999.9 kHz.

- The Coupler Provides a Ready Signal When Tuning Is Completed.

- The RF Output of the PA Is 100 or 400 Watts Average or PEP+/- 1dB.

AMPLIFIER-CONVERTER (AM-6879/URC) (1)



AMPLIFIER-CONVERTER (AM-6879/URC) (2)

- The Amplifier-Converter Performs Two Main Func

  - Contains a Frequency-Shift Keying (FSK) Converter That Interfaces Between a 75 Baud Standard Teletypewriter (TTY) and the Audio Circuits of the RT.

  - Contains an Audio Amplifier and Speaker To Provide Audio Output of Signals Received b The Radio Set. The Desired Function (SPKR ON or TTY ON) Is Selected by a Front Panel Switch

RECEIVER-TRANSMITTER (RT-1209) (1)

RECEIVER-TRANSMITTER (RT-1209) (2)

- The RT Performs the Conversion of Audio Signals To Radio Frequency (RF) and RF to Audio.
- The RT Operates As a Standard Receiver-Transmitter RT-1209.
- The RT Control Panel Contains Audio Connectors